Teaching parents about child health using a practice booklet

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SUMMARY. The parents of all the children under the age of five years in the practice were divided at random into an experimental and control group. One of the parents from each group, usually the mother, was then formally tested about her knowledge of the aspects of child care using a multiple choice questionnaire.

Parents in the experimental group were then given a copy of a booklet prepared by the practice on three aspects of child care and presented to make them easily read and understood. Two or three weeks later the experimental group were requested to complete the same questionnaire again. The results show a statistically significant improvement in the knowledge of those parents who had received the booklet. We are encouraged by these results and new families with small children in the practice will be given this booklet and it will be reviewed and modified in the future.

Introduction

THE preliminary report from the Department of Health and Social Security's continuing multi-centre study of postneonatal mortality showed that an important minority of children aged between one week and two years who die at home have "major symptoms" during their terminal illness which have been present for days rather than hours (Stanton *et al.*, 1978). These symptoms are often non-specific and the normally taught physical signs of life-threatening illness may well be absent.

The research workers in this study suggest that parents need to be educated to recognize signs of deterioration in their children through minor illness and that primary care doctors should recognize that taking an accurate history is more important than eliciting physical signs.

Emery (1977) points to the higher rates of perinatal mortality in Great Britain compared with other European countries and suggests that improvement in our mortality statistics will come only by looking at the role of the primary care team in dealing with early illness at home. The questions he poses are whether parents are deficient in health education for parenthood and whether they recognize disease in infants adequately. We therefore decided to produce a booklet for use in our practice to remedy these possible deficiencies.

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Aim

Our aim was to study the knowledge acquired by parents of children under five years as a result of giving them a booklet produced by the practice on child care.

Method

All parents of children under the age of five years in the practice on 1 January 1978 were allocated at random to an experimental group and a control group. An alphabetical list was prepared from the age/sex register and strict alternate allocation to one or other group was made. There were 184 families in each group and there were no ethnic differences between the groups. One of the parents from each group, usually the mother, was asked to complete a questionnaire on three aspects of child care:

1. The prevention of illness.
2. The management of minor illness.
3. The use of the Health Services.

The questions were all multiple choice. One point was given for a correct answer and one point deducted for an incorrect answer for each multiple choice question. The scores were calculated by the statistician carrying out the analysis.

All parents were then given a copy of a booklet prepared by the practice on these three aspects of child care. The booklets were written to give an 'easy read' according to Flesch's (1948) reading ease score, and two to three weeks later the experimental group were asked to complete the same questionnaire again. The control group replies were then compared with the experimental group replies before the booklet was read. The replies of

the experimental group before and after the booklet were also compared.

Results

In the control group 173 (94 per cent) completed the form while 11 (six per cent) were untraceable or failed to respond to the request to complete the form. In the experimental group 142 (77 per cent) completed both forms, 25 (13.5 per cent) were untraceable or refused, and 17 (9.5 per cent) only part-completed the study.

One hundred and seventy-three control results were compared with 142 experimental group pre-booklet results (Table 1). No significant differences were found in the numbers of correct answers for individual questions and for the total score (Mann Whitney *U* test).

When the replies before and after reading the booklet in the experimental group were analysed, all showed a significantly improved score except one relating to a question about which illnesses could be prevented by immunization. This question had a slightly, but not significantly, improved mean score (Wilcoxon matched-pairs signed-ranks test). The total scores for all questions were significantly improved (Table 2).

Table 1. Results of the questionnaire: comparison of the mean scores of the control group and the experimental group before reading the booklet.

Topic	Control group N=173	Experimental group N=142
Antenatal	3.9	3.9
Breast feeding	3.4	3.4
Infant development	4.3	4.4
Immunization	4.2	4.4
Feverish child	3.0	3.2
Diarrhoea and vomiting	4.0	4.0
Use of medical services	4.5	4.5
All questions	27.3	27.8

There are no statistically significant differences between the means for any of the questions.

Table 2. Results of the questionnaire: comparison of the mean scores of the experimental group before and after reading the booklet (N=142).

Topic	Before	After
Antenatal	3.9	4.3
Breast feeding	3.4	3.7
Infant development	4.4	4.7
Immunization	4.4	4.5*
Feverish child	3.2	3.8
Diarrhoea and vomiting	4.0	4.4
Use of medical services	4.5	4.8
All questions	27.8	30.2

*Not significant. All other differences are significant at $p < 0.05$.

The 142 experimental group individuals were divided into three groups by social class, according to the information supplied by the parents on completion of the questionnaire (Table 3). Social classes 1 and 2 (26 patients, 18.3 per cent), social class 3 (68 patients, 47.9 per cent), social classes 4 and 5 (24 patients, 16.9 per cent) and the 'before and after booklet' results were then compared (Table 4). This was also carried out for those 22 patients who were unemployed (15.5 per cent). Two students were not categorized.

In social classes 1 and 2, the total score improved, but only questions about infant development improved significantly. In social class 3, increased knowledge was recorded in all aspects except for questions about breast feeding and immunization, where the improvement was not statistically significant. In social classes 4 and 5, statistically significant improvement in all answers except for immunization and the management of diarrhoea and vomiting were obtained.

Twenty-two unemployed parents recorded a significant improvement in the total score and in three topics: hazards to the fetus, management of the feverish child, and management of diarrhoea and vomiting.

In order to see whether the higher social classes had more knowledge of the subject matter, the control and experimental group were pooled and social classes compared (Table 5). Social classes 1 and 2 showed a significantly higher score for most questions and in the total score when compared with social class 3, but when social class 3 was compared with 4 and 5, although there was a greater total score, only knowledge about breast feeding was significantly better.

Discussion

If general practitioners are to improve their early detection of illness in infants they must have the co-operation of the parents in prevention, management, and use of the doctor's services. The first step is to learn the facts in the hope that subsequent behaviour will lead to improved action at the time of need.

The booklet which has been produced by the practice has been instrumental in increasing knowledge about child health in all social groups in this inner ring practice. It is interesting to note that there are different

Table 3. Social class distribution of the experimental group.

Social class	Number of patients	Percentage
1	5	*3.5*
2	21	*14.8*
3	68	*47.9*
4	21	*14.8*
5	3	*2.1*
Students	2	*1.4*
Unemployed	22	*15.5*
Totals	142	*100.0*

Table 4. Comparison of the mean scores of the experimental group by social class before and after reading the booklet.

Social class	1 and 2 N=26		3 N=68		4 and 5 N=24		Unemployed N=22	
Topic	Before	After	Before	After	Before	After	Before	After
Antenatal	4.3	4.5	4.1	4.4*	3.7	4.3*	3.2	4.0*
Breast feeding	3.9	4.3	3.5	3.7	2.9	3.5*	3.1	3.3
Infant development	4.5	4.9*	4.5	4.7	4.3	4.7*	4.4	4.6
Immunization	4.8	4.7	4.4	4.4	4.4	4.6	4.0	4.2
Feverish child	3.8	4.1	3.2	3.6*	2.8	3.5*	2.8	4.0*
Diarrhoea and vomiting	4.0	4.3	4.1	4.5*	4.0	4.1	3.6	4.4*
Use of medical services	4.6	4.8	4.6	4.9*	4.4	4.8*	4.3	4.6
All questions	29.9	31.6*	28.4	30.2*	26.5	29.5*	25.4	29.1*

*Differences significant at $p < 0.05$ (Wilcoxon matched-pairs signed-ranks test).

Table 5. Mean scores of both control and experimental groups by social class and question.

Topic	Social class 1 and 2 N=44	3 N=151	4 and 5 N=64	Unemployed N=53
Antenatal	4.3	4.0[1]	3.8	3.4[3]
Breast feeding	4.0	3.5[1]	3.2[2]	2.8[3]
Infant development	4.5	4.4	4.3	4.3[NS]
Immunization	4.7	4.3[1]	4.4	3.9[3]
Feverish child	3.7	3.2[1]	2.9	2.5[3]
Diarrhoea and vomiting	4.1	4.0	3.9	3.7
Use of medical services	4.6	4.5	4.5	4.5[NS]
All questions	29.9	27.9[1]	27.0[2]	25.1[3]

[1]Significantly different from social classes 1 and 2.
[2]Significantly different from social class 3.
[3]Significantly different from social classes 4 and 5.
These differences are significant at $p < 0.05$ (Wilcoxon matched-pairs signed-ranks test).
[NS]Not significantly different from social classes 1 and 2.

gaps in the knowledge of different social groups. Certainly this must be taken into account when giving health advice, and subsequent health education programmes in this practice will be planned with this in mind. New families with small children in the practice will be given this booklet, and the booklet will be kept under review and modified according to our experience and new developments in child care.

The instructions on the front cover of the booklet give details of the emergency telephone number of the practice and advise parents to keep the booklet in the medicine cabinet for easy reference at time of need.

References

Emery, J. L. (1977). The pattern of child death today and its relation to the community. *Journal of the Institute of Health Education,* **15**, 6-12.

Flesch, R. (1948). A new readability yardstick. *Journal of Applied Psychology,* **32**, 221-233.

Stanton, A. N., Downham, M.A.P.S., Oakley, J. R., Emery, J. L. & Knowelden, J. (1978). Terminal symptoms in children dying suddenly and unexpectedly at home. *British Medical Journal,* **2**, 1249-1251.

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Addendum

A copy of the booklet and questionnaire may be obtained from the Birchfield Medical Centre, 95 Birchfield Road, Birmingham B19.

Decline of smoking

The smoking habit in Great Britain is now known to be in steady decline. Figures for sales of tobacco in the United Kingdom released recently by the Tobacco Advisory Council (1978) show a drop of three and a half per cent between 1976 and 1977. Sales of tobacco reached a peak in 1961 and since then, apart from a secondary peak in 1973, the general trend has been downwards. We have no means of monitoring cigarette sales in Scotland as separate sales figures are not available.

Reference

Bostock, Y. & Davies, J. K. (1980). Recent changes in the prevalence of cigarette smoking in Scotland compared with trends in England and Wales. *Health Trends,* **12**, 41-44.